

REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the specification and pending claims and the following remarks.

Amendments to the Claims

Claims 1-20 are pending in the present application. Claims 1, 3-5, 7, 9-16 and 18-20 have been amended.

No new matter has been added by way of these amendments because each amendment is supported by the present specification, corrects multiple dependency issues, or is editorial in nature. For example, the amendment to claim 7 regarding “distillation with a WFE” finds support in the specification at, *inter alia*, page 28, lines 14-15 as well as Examples 1 and 2.

Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Claim Objections

The Examiner has objected to claims 4-6 and 10-20 as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. The relevant claims have been amended to correct this issue. Thus, Applicants respectfully submit that the amendments overcome the outstanding objection and that the objection be removed.

Issues under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 1, 3, 7 and 9 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Applicants have amended claims 1, 3 and 7 to remove the parentheses. In addition, claim 7 now recites the phrase, “thereby produce the,” and claim 9 has been amended to remove the

improper antecedent basis. Thus, Applicants respectfully submit that the amendments overcome the outstanding rejection and that the rejection be removed.

Issues under 35 U.S.C. § 103(a)

Claims 1-3 are rejected under 35 U.S.C. § 103(a) as being obvious over Takai '839 (US 2004/0242839) (see pages 3-5 of the Office Action).

Claims 1-3 and 7-9 are rejected under 35 U.S.C. § 103(a) as being obvious over Takai '618 (US 2003/0059618) in view of Boehme et al. '532 (US 4,849,532) (see pages 5-8 of the Office Action).

Applicants respectfully traverse, and reconsideration and withdrawal of these rejections are respectfully requested.

The Rejection in View of Takai '839

Applicants have noted pages 3-5 of the outstanding Office Action. The Examiner admits that the amount of impurities is not directly taught by Takai '839. However, the Examiner alleges that claim 5 of Takai '839 discloses 100% of the compound and, thus, 0% impurities. Applicants respectfully traverse the Examiner's interpretation.

Takai '839 does not prove the existence of the epoxy compound whose content of impurities is 0 wt %. In fact, Examples II-1 to II-8 of Takai '839 use alicyclic epoxy compounds (A-1) and (A-2) produced in Examples I-1 and I-2 respectively (paragraphs [0227]-[0228]). Purity of the epoxy compounds obtained in Examples I-1 and I-2 are 93.4% and 91.8% respectively. Therefore, Takai '839 does not disclose epoxy compounds which do not contain any impurities.

Moreover, Applicants respectfully submit that Example I-1 of Takai '839 and Comparative Example I of the present application are identical. Similarly, Example I-2 of Takai '839 and Comparative Example II of the present application are identical. In other words, Comparative Examples 1 and 2 conduct GPC analysis of the alicyclic epoxy compounds produced in Takai '839. In comparing the concentration of high-molecular-weight components each having an elution time shorter than that of the alicyclic epoxy compound obtained in Examples 1 and 2 of the present invention using detection by GPC analysis with that of

Comparative Examples 1 and 2, Examples 1 and 2 show 5.2% and 3.7% respectively. By contrast, Comparative Examples 1 and 2 show 12.5% and 14.7% respectively. That is, the concentration of high-molecular-weight impurities of epoxy compound produced in Takai '839 is much higher than that of the present invention. Accordingly, the concentration of high-molecular-weight impurities is improved markedly in the present invention mainly due to distillation with WFE.

Relevant to this § 103(a) rejection, *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966) has provided the controlling framework for an obviousness analysis, wherein a proper analysis under § 103(a) requires consideration of the four *Graham* factors. One such factor includes the evaluation of any evidence of secondary considerations (e.g., commercial success; unexpected results). 383 U.S. at 17, 148 USPQ at 467. In this regard, Applicants respectfully submit that the present invention has achieved unexpected results, whereby such results rebut any asserted *prima facie* case of obviousness (whether based on Takai '839 or any other reference or combinations thereof). See *In re Corkill*, 711 F.2d 1496, 226 USPQ 1005 (Fed. Cir. 1985). Also, the comparative showing need not compare the claimed invention with all of the cited prior art, but only with the closest prior art. See M.P.E.P. §§ 716.02(b) and 716.02(e).

In this regard, Applicants note M.P.E.P. § 2144.08(5)(B), which states that rebuttal evidence and arguments can be presented in the specification, *In re Soni*, 54 F.3d 746, 750, 34 USPQ2d 1684, 1687 (Fed. Cir. 1995).

Thus, due to the unexpected results as achieved by the present invention, this rejection has been overcome.

Reconsideration and withdrawal of this rejection are respectfully requested.

The Rejection in View of Takai '618 and Boehme et al. '532

Applicants have noted pages 5-8 of the outstanding Office Action. However, Applicants respectfully traverse this rejection.

With respect to this rejection, Applicants submit that the requisite motivation is lacking. The teaching, suggestion, motivation test is a valid test for obviousness, but one which cannot be too rigidly applied. See *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385, 1395 (U.S. 2007). The Examiner alleges that "a person having ordinary skill in the art would have found it

obvious to combine Takai '618 and Boehme et al. and would have been motivated to do so because distillation is a well known method of purification." However, Takai '618 and Boehme et al. '532 differ from one another with respect to raw materials (dicyclic olefin) and methods for epoxidation. That is, Boehme's alicyclic olefin compound contains an ester group in its linking group. By contrast, there is no ester group containing linking group in the list of X of Takai '618's alicyclic olefin compound represented by formula (II). Furthermore, Boehme et al. '532 employ perpropionic acid which is prepared by reacting aqueous hydrogen peroxide with propionic acid in the presence of sulfuric acid and contains hydrogen peroxide, water, and mineral acid as an epoxidation agent (claim 1). By contrast, the epoxidation agent of Takai '618 is an aliphatic percarboxylic acid obtained by oxidation of the corresponding aldehyde with oxygen (claim 2) and whose water content is 2% by weight or less (claim 1).

As stated above, Boehme et al. '532 and Takai '618 differ from one another in their raw material and method for epoxidation. Therefore, Applicants respectfully submit that the impurities contained in each crude alicyclic epoxy compound differ from one another. Thus, one of ordinary skill in the art would not find it obvious to combine Takai '618 and Boehme et al. '532.

Moreover, the combination of Takai '618 and Boehme et al. '532 does not disclose each and every limitation of, at least, independent claim 7. Specifically, none of the cited prior art disclose or suggest the utilization of WFE (Wiped Film Evaporator) for purification.

To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (See MPEP 2143.03). As discussed above, the combination of references fails to teach or suggest all the claim limitations of independent claim 7, and those dependent thereon. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the instant rejection is respectfully requested. Therefore, claims 7-9 clearly distinguish over the cited prior art.

Applicants respectfully submit that this rejection has been overcome. Reconsideration and withdrawal of this rejection are respectfully requested.

Obviousness-Type Double Patenting

The Examiner has provisionally rejected claims 1-3 under the doctrine of obviousness-type double patenting over claims 1 and 3-5 of co-pending Application No. 11/792,782. (The Examiner cites the reference as No. 11/792,982, but the Examiner has subsequently confirmed that this is incorrect during a brief interview after the Office Action issued.) In addition, the Examiner has also provisionally rejected claims 1-3 under the doctrine of obviousness-type double patenting over claim 5 of co-pending Application No. 10/883,162.

As the above rejections are provisional rejections, no action is required by Applicants at this time. See MPEP 804, page 800-17.

In addition, the Examiner alleges that claims 1-3 are not patentably distinct from claims 1 and 3-5 of commonly assigned, co-pending Application No. 11/792,782. The Examiner requests that Applicants confirm that the conflicting inventions were commonly owned at the time the invention in the instant application was made.

Applicants confirm that the present application and co-pending Application No. 11/792,782 were, at the time the invention of the present application was made, owned by Daicel Chemical Industries, Ltd.

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Marc S. Weiner, Reg. No. 32,181, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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